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INTERNAL REPORT

A DIGITAL PRESSURE READOUT DEVICE

BY

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BRANCH

APPLIED RESEARCH

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A DIGITAL PRESSURE READOUT DEVICE

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A DIGITAL PRESSURE READOUT DEVICE

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graphs of the subject instrument.

The device, described in the above-mentioned report, has received wide acceptance in the Bellum Research Center for a number of applications. The accuracy of this instrument is considerably better than that claimed by precision-gage manufacturers, ± 0.1 percent. Aside from the accuracy, the system incorporates a digital readout device which reduces chance of error in reading and is also adapted for use with a recorder.

Having a millivolt output signal, this instrument might easily be adapted for telemetering purposes.

1/ Physical Science Technolator, Bellum Research Center, Bureau of Mines, Amarillo, Texas.

2/ McVey, J. K., and E. E. Gorn. A Digital Pressure Readout Device, Bellum Research Center Internal Report No. 50, October 1964, 9 pp.

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ILLUSTRATIONS

<u>Fig.</u>	
1	Front view of digital pressure device
2	Flow diagram for digital pressure device
3	Rear view of digital pressure device

A DIGITAL PRESSURE READOUT DEVICE

by

R. E. Noon^{1/}

INTRODUCTION

This report is written to supplement Internal Report No. 50^{2/} and includes an operating procedure, gas-flow diagram, and two photographs of the subject instrument.

The device, described in the above-mentioned report, has received wide acceptance in the Helium Research Center for a number of applications. The accuracy of this instrument is considerably better than that claimed by precision-gage manufacturers, ± 0.1 percent. Aside from the accuracy, the system incorporates a digital readout device which reduces chance of error in reading and is also adapted for use with a recorder.

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OPERATIONAL PROCEDURE

1. Connect 120-volt ac power supply.
2. Position power switch to "on."
3. Push battery test switch to "battery test" position. Meter should read 9 volts dc .
4. Position battery test switch to "battery on."
5. Connect a pressure line from railroad car, trailer, or other pressurized container to the pressure inlet connection located center of forward panel.
6. Open purge valve on instrument panel and purge line slowly from shipping container through this purge valve.
7. Allow instrument to stabilize approximately 15 minutes.
8. Stop purge flow and adjust digital zero control until instrument reads exactly zero before each pressure check.
9. Close purge valve and introduce pressure to instrument.
10. Record maximum pressure reading, close supply valve, purge out pressure from line, and observe instrument reading at atmospheric pressure. If not zero, repeat complete cycle.

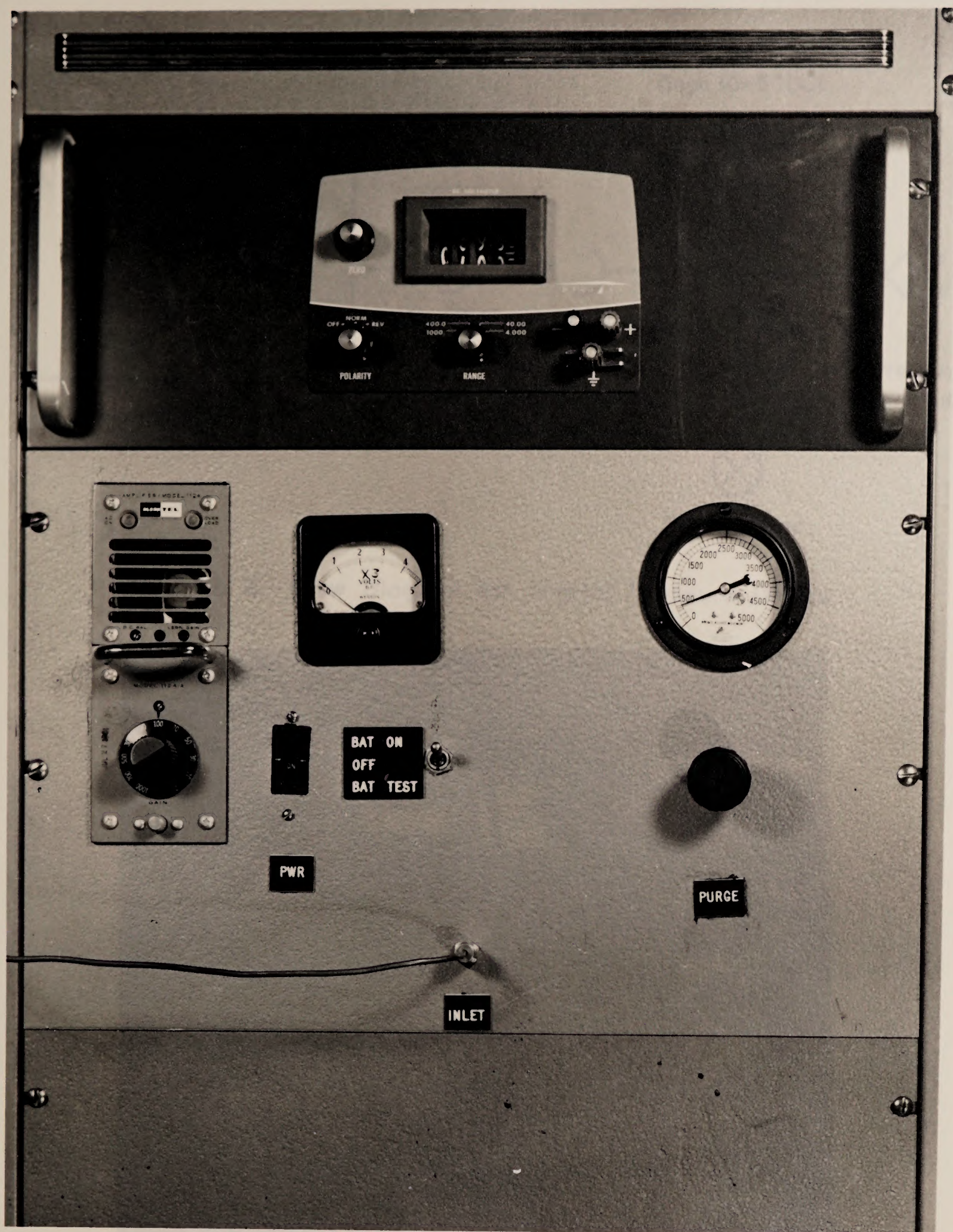


FIGURE 1. - Front View of Digital Pressure Device

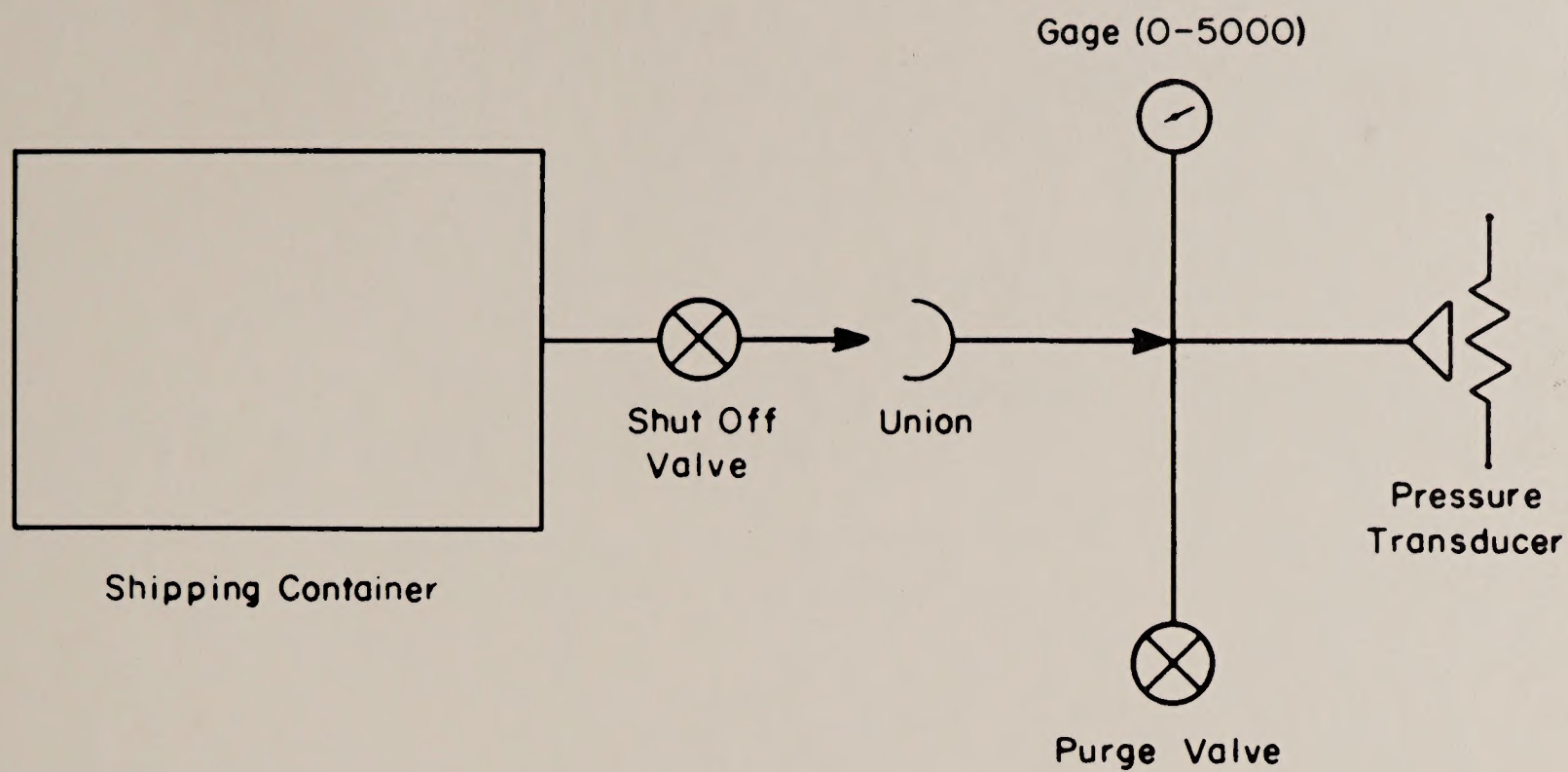


FIGURE 2.- Flow Diagram for Digital Pressure Device

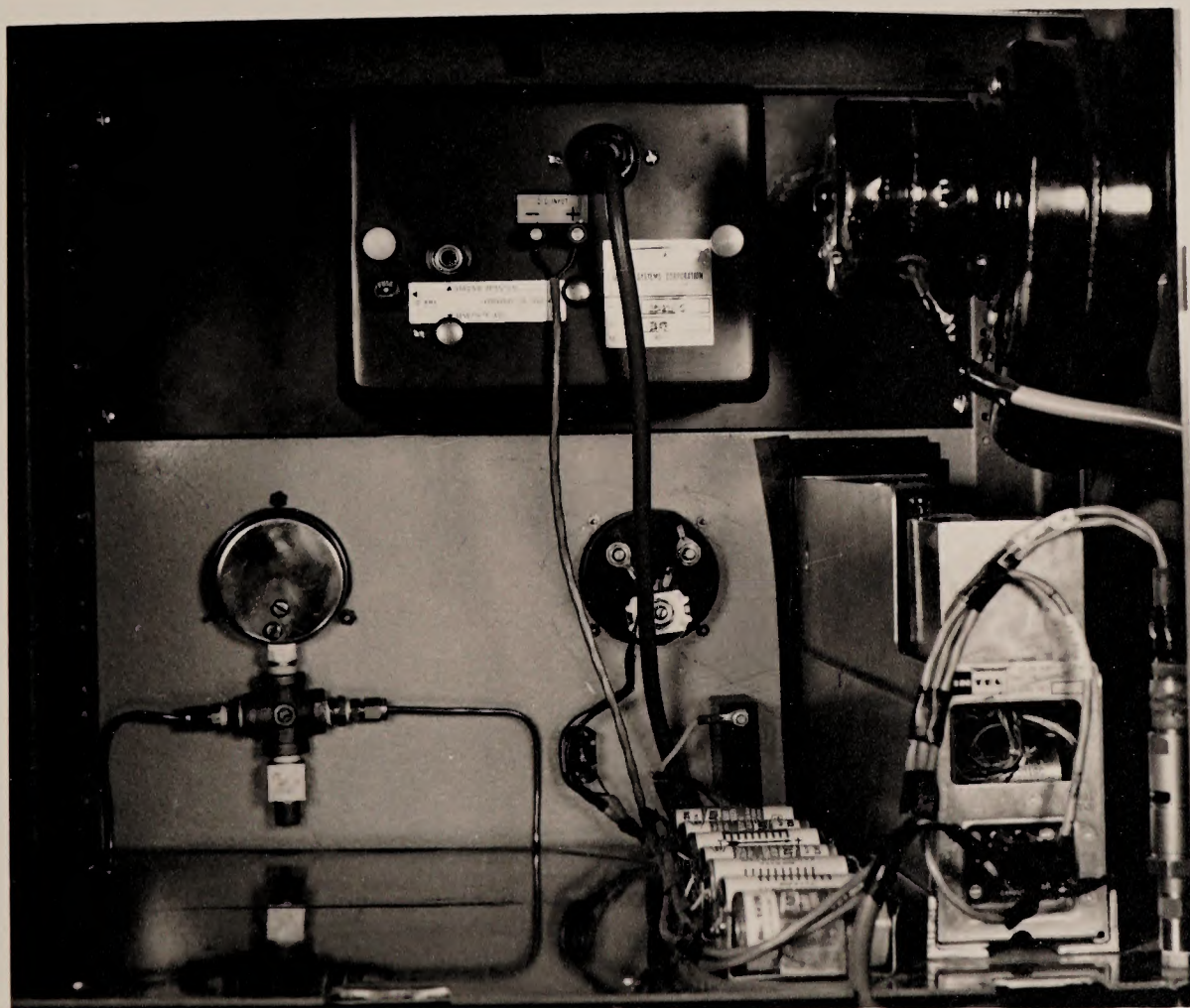


FIGURE 3.- Rear View of Digital Pressure Device

